```
R version 4.2.2 (2022-10-31 ucrt) -- "Innocent and Trusting"
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Platform: x86_64-w64-mingw32/x64 (64-bit)

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  Natural language support but running in an English locale

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Type 'q()' to quit R.

[Previously saved workspace restored]

> ############################
>
> R code for Exercise 2
Error: unexpected symbol in "R code"
> ############################
>
> #Load the data from CSV file
> volt <- read.csv("C://Users//yxa210024//Desktop//Masters//spring2023//Stats for DS//mini_projec
t4//voltage.csv")
>
> #Attach the data for easy access to variables
> attach(volt)
>
> #Generate boxplots
> boxplot(voltage ~ location,main="BOXPLOT")
>
> #Define a custom function to calculate summary statistics
> new.summary <- function(x){
+ result <- summary(x)
+ result_summary<- c(result[-6], IQR = IQR(x), result[6], SD = sd(x))
+ return(result_summary)
+ }
>
>
> #Calculate summary statistics by location using the custom function
> by(voltage, location, new.summary)
location: 0
      Min.    1st Qu.     Median       Mean    3rd Qu.        IQR       Max.
 8.0500000  9.8000000  9.9750000  9.8036667 10.0500000  0.2500000 10.5500000
        SD
 0.5409155
------------------------------------------------------------
location: 1
      Min.    1st Qu.     Median       Mean    3rd Qu.        IQR       Max.
 8.5100000  9.1525000  9.4550000  9.4223333  9.7375000  0.5850000 10.1200000
        SD
 0.4788757
>
> #Subset the data for remote and local locations
> remote <- volt[which(location == 0), "voltage"]
> local <- volt[which(location == 1), "voltage"]
> #Generate normal QQ-plots for remote and local locations
> par(mfrow=c(2, 1))
> qqnorm(remote, main = "remote")
> qqline(remote)
> qqnorm(local, main = "local")
> qqline(local)
>
```

```
> #Calculate confidence interval using t-test
> T_test <- t.test(remote, local)
> Confidence_Interval <- T_test$conf.int
> Confidence_Interval
[1] 0.1172284 0.6454382
attr(,"conf.level")
[1] 0.95
>
```